OBITUARY

In memoriam: James Nathaniel Layne

(16 May 1926–10 June 2017)

Figure 1. James N. Layne, ca. 1985. Photo courtesy of Archbold Biological Station.
Dr. James N. Layne has been a significant contributor to science in Florida since his arrival in 1955 as faculty at University of Florida, and he served the Florida Academy of Sciences from the 1960s well into the early 2000s. His active participation on the FAS Council began in 1962 with his appointment as a counselor-at-large. Dr. Layne was President in 1984–1985. He was the first chair (1987) of the Academy’s Florida Endowment for the Sciences and was an endowment trustee until 2002. His involvement with the Florida Committee on Rare and Endangered Plants and Animals transitioned to FAS when the committee became a section of the Academy. His contributions to science in Florida were recognized by the Academy when he was named the 1995 FAS Medalist. At the time, a colleague wrote that Jim Layne “represents the best qualities of a Florida scientist – dedication, hard work, giving of one’s self unselfishly for the benefit of others, sharing expertise and wisdom.”

Jim Layne was born in Chicago, IL, on 16 May 1926. He served in the U.S. Army Air Force (reserve, 1943-44: active duty, 1944-46). He was discharged August, 1946, and immediately enrolled at Chicago City Junior College (1946-47). He then transferred to Cornell University where he earned his B.A. (1947-50) and Ph.D. (1950-54) degrees. His Ph.D. dissertation on the biology of the red squirrel in central New York, published (1954) in *Ecological Monographs*, is considered a classic. On 25 August 1950, Jim married Lois Linderoth, of Chicago, and on 22-30 December 1952, Jim and Lois made their first visit to Archbold Biological Station for a week of mammal collecting.

Jim held faculty positions at Southern Illinois University (1954-55), University of Florida (1955-63), and Cornell University (1963-67). In June 1967, Jim left Academia to spend the rest of his career at Archbold Biological Station, an independent research institution founded by Richard Archbold in 1941. Jim held four appointments at Archbold; the first Director of Research (1967-76), the first Executive Director (1976-85), Senior Research Biologist (1976-93), and Senior Research Biologist Emeritus (1993-2017).

During his first stay in Florida as Assistant and Associate Professor of Biology at UF, Jim was also Curator of Mammals at the Florida State Museum. While at Gainesville, Jim was major professor for seven graduate students who earned four Master’s and four Ph.D. degrees in mammalogy. Jim’s research (supported by an NSF grant) centered on the ecology, population dynamics, and endo- and ectoparasites of small mammals, especially the Florida mouse. His intensive study on this Florida endemic species introduced him to Florida’s xeric, upland plant communities, first in north-central Florida, and later (1956-62), at the southern tip of the Lake Wales Ridge, when he made four collecting trips, with students, to collect mammals at Archbold Biological Station. About Jim at UF, Graduate student J. Hill Hamon wrote, “Layne was gung ho in every part of his life I witnessed – totally organized in lectures and labs – teaching C-6 biology, maintaining a heavy research program, plus supervising graduate students. He published many papers and usually came back at night and typed on manuscripts in his office until 11 or 12. All his graduate students loved and respected him. I was inspired chiefly by his example.”
At Cornell, Jim was Associate Professor of Zoology and was major professor for seven graduate students who earned one Master’s and six Ph.D. degrees in mammalogy. Jim’s research (supported by two NSF grants) continued its focus on small mammals especially the comparative behavior, physiology, and anatomy of four species of *Peromyscus* mice.

While at Archbold, Jim was also Adjunct Professor of Biology at University of South Florida (1968-89) and at Florida Atlantic University (1980-84). At USF, he was major professor for nine graduate students, who all earned Master’s degrees doing their research at Archbold (mammalogy - 8, ornithology – 1). He also was a Research Associate at the Florida State Collection of Arthropods (1970-2008) and at the Department of Mammalogy, American Museum of Natural History (1982-90).

Coming to Archbold from faculty positions at three major universities, Jim was an established field vertebrate biologist specializing in mammals and reptiles. He taught the vertebrate ecology course at Cornell University for four years, and he was excited to survey, sample, and unravel the drivers of population dynamics in terrestrial vertebrates at Archbold. He also saw great potential for establishing a first-class research institute in the ecologically unique heartland of Florida. With no teaching duties, and minimal administration responsibilities, Jim poured all of his energy and experience into a greatly expanded, long-term field research program.

Jim: created base maps; compiled a land-use history, fire maps, and habitat descriptions; facilitated a soil survey; and, with Richard Archbold, summarized 40 years (since 1931) of site-specific climatological records. All of this enhanced the data collected at permanent sampling grids, transects, and pitfall arrays that were installed in Archbold’s pristine pine-oak habitats. No mammal, reptile, or amphibian captured alive at Archbold escaped being measured, weighed, photographed, and individually marked before it was released. All road-killed vertebrates were autopsied, examined for parasites, and had their stomach contents inventoried, before being preserved as data-rich, biological specimens. Small mammals captured on transects away from the mark-and-recapture grids were collected for detailed reproduction studies. Jim revived his youthful interest in raptorial birds (he was a teen-age falconer) by conducting regional field studies on Cooper’s hawks, American kestrels, and crested caracaras. Jim had full-time research assistants, and numerous undergraduate research interns, to conduct field work and autopsies, and to prepare specimens and tabulate data. Richard Archbold was the enthusiastic Collections Manager. Jim was recreating Richard Archbold’s New Guinea biological inventory (1933-39) in the unexplored xeric uplands of the southern Lake Wales Ridge at the well-built, well-equipped, well-endowed, permanent base camp known as Archbold Biological Station.

For aspects of the Archbold biota that demanded other professional expertise to measure, Jim recruited outstanding scientists (Research Associates of Archbold) to conduct long-term research on birds (Glen E. Woolfenden, Univ. South Florida, Florida scrub-jay), plant ecology (Warren G. Abrahamson, Bucknell Univ., palmetto demography and plant community analysis) and the chemical ecology of terrestrial invertebrates (Tom Eisner, Cornell Univ.). “I am forever grateful for
Jim’s mentorship, encouragement, and support. By becoming a Research Associate in 1976, I was able to commit to long-term studies at ABS knowing that these studies could continue for decades with or without external funding,” wrote Warren Abrahamson, in 2017. These scientists brought their undergraduate and graduate students to Archbold, building an ever-growing cadre of field biologists of all ages. Overall, the breadth and depth of research activities and long-term studies at Archbold blossomed and expanded under Jim’s studied oversight. His dedication to this as the primary mission of Archbold has been carried on ever since.

While at Archbold, Jim Layne’s administrative accomplishments greatly enhanced the Station’s facilities and land holdings. Working closely with Richard Archbold, they together invested time and resources into converting the physical buildings, technical facilities, and unique native property into a modern research institute. After Archbold’s death in 1976, Jim became Executive Director (1976-85) and he assumed a full administrative burden and oversaw operations and facilities, including conversion of previously under-utilized spaces for laboratories and classrooms. Jim guided Archbold Biological Station through its transition into full independence from the American Museum of Natural History, which culminated in 1981. To complement Layne’s own areas of expertise, he hired new, full-time research biologists in Entomology (Mark A. Deyrup) and Plant Ecology (Ronald L. Myers, later Eric S. Menges), and a series of post-doctoral fellows who conducted research on a variety of animal and plant groups, and on Archbold’s newly-acquired Lake Annie, where the early study became the basis for monthly limnological sampling that continues to the present.

Jim Layne’s scientific bibliography lists 180 journal articles, book chapters, and edited books and 119 of these are based on research done at Archbold. Most are about mammals, but others include fishes, herptiles, birds, and plant ecology. Jim’s first seven publications (1943-49) are about birds (owls, hawks, vultures).

Jim’s service to professional organizations included the Florida Academy of Sciences (mentioned above), the Organization of Biological Field Stations, he served as president (1986-87), and the American Society of Mammalogists. For the latter he served as a Director, Vice-President, and President (1970-72). He was the first editor (1969-78) of the Society’s Special Publications Series and he served on eight committees. Jim Layne was the first recipient (1976) of the C. Hart Merriam Award for outstanding research in mammalogy from the American Society of Mammalogists, and in 1993 he was elected an Honorary Member of the Society.

Not content with a full research life, Jim was always active in Florida conservation. At Archbold, ever mindful of encroaching development, he encouraged Richard Archbold to purchase (1973) 2,800 acres of natural land along Archbold’s west boundary, and he worked hard together with Frances and Page Hufty to secure the purchase (1983) of the Lake Annie Tract (240 acres). Elsewhere in Florida he conducted field surveys along the Ocklawaha River for the Florida Defenders of the Environment campaign to stop construction of the Cross Florida Barge Canal. In 1973, the same year of the passage of the Endangered Species Act, Jim helped organize the Florida Committee on Rare and Endangered Species and served as Chairman (1973-77) of its Coordinating Committee. The six
volumes of species life history accounts authored by this committee are still foundational for the conservation work of the Florida Fish and Wildlife Conservation Commission and of the Florida Natural Areas Inventory. Jim served as a Trustee, or Director, for Florida Audubon Society, Florida Defenders of the Environment, Florida Chapter of The Nature Conservancy, and Florida Conservation Foundation. He was appointed by the Florida Governor to the Peace River Basin Board (1985-89) and Save Our Rivers Committee (1985-89), both for the Southwest Florida Water Management District, and to the Florida Panther Technical Advisory Board (1988-95).

Always the academic, Jim regularly turned a natural history question into a short lecture. Agency scientists and Florida Park Service biologists were frequently in his Archbold office discussing the status of Florida wildlife species, sampling methods, how to reduce wild hog damage to park ecosystems, or the effects of fire on plant communities. “Whether driving with Jim in the scrub and ranchland of central Florida, or during extended conversations in his lab at the Station, Jim Layne was unwavering in sharing his knowledge and his passion about Florida’s plants, animals, and ecosystems,” says John Fitzpatrick, who became Archbold’s third Executive Director in 1988 and whom Jim mentored as a college student in 1972.

The living legacy of Dr. James N. Layne still thrives at Archbold Biological Station in the myriad studies he initiated that continue to this day, in the respect for deep ecological knowledge that he instilled in all those who followed, in the enduring facilities, in the legions of students he inspired, and in the evolving mission of the Station as a vital force for science, education, conservation, and for good.

Acknowledgments We are indebted to James N. Layne for the comprehensive record of his professional career that he left us. The “James N. Layne Collection” housed at Archbold Biological Station includes correspondence, field notes, specimen catalogs, and many other materials stored in 50 archival boxes, all accessible to scholars and the public. The collection is under active archival care and inventory as we write this memoriam. We thank John W. Fitzpatrick, Warren G. Abrahamson, Hilary M. Swain, and Joseph Gentili for their helpful comments.

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