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## IN MEMORIAM: ROXIE COLLIE LAYBOURNE, 1910–2003

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Feather identification expert for 40 years, bird-skinning teacher, mentor, renaissance woman, natural historian, educator, and sports car enthusiast, Roxie Collie Laybourne died on 7 August 2003 at her home in Manassas, Virginia. Known as the “Feather Lady,” Roxie pioneered the field of forensic ornithology at the Smithsonian Institution by studying the detailed microscopic structures of plumaceous (downy) feather barbules and creating a technique of identifying species of birds from fragmentary feather samples. Her methods are now used throughout the world to identify birds involved in collisions with aircraft (bird-strikes) and are routinely applied to studies of prey remains, evidence from criminal cases, and anthropological artifacts. She worked long hours, weekends and holidays, and never took a vacation—believing that if you love what you do, there is no need for time off. Her career in ornithology and species identification benefited numerous agencies, including the U.S. Air Force, Navy, and Army; the U.S. Fish and Wildlife Service (USFWS); National Park Service; Federal Bureau of Investigation; U.S. Bureau of Customs; Federal Aviation Administration; and National Transportation Safety Board. On the basis of data provided by Roxie, aircraft have been redesigned, airport biologists have improved their techniques for reducing birdstrikes, and many people have gained a greater appreciation of birds and the natural world.

Born in Fayetteville, North Carolina, on 15 September 1910, Roxie grew up in Farmville, North Carolina, the eldest of 15 children. She graduated from Meredith College, Raleigh, North Carolina, in 1932 with a degree in mathematics and general science. In 1950, Roxie

received a Master’s degree in Botany from George Washington University, Washington, D.C., completing a thesis on mosses. Before joining the Smithsonian Institution, Roxie worked for H.H. Brimley at the North Carolina State Museum of Natural History in Raleigh as a taxidermist and collector. She also worked at the National Fisheries Laboratory in Beaufort, North Carolina. It was during those years that she transformed her love of natural history, museum collections, and ornithology into a career. In 1944, Alexander Wetmore, acting Secretary of the Smithsonian Institution, encouraged Roxie to come to Washington, D.C. for a short-term appointment in the Bird Division at the National Museum of Natural History, with taxidermist Watson Perrygo and curator Herbert Friedmann. From 1946 to the late 1980s, Roxie continued her work at the Smithsonian with the USFWS Bird and Mammal Laboratory (now part of the U.S. Geological Survey, Patuxent Wildlife Research Center). Even though Roxie retired from the USFWS in 1988, her professional life was far from over. She continued her feather identification work as a Research Associate with the Smithsonian until her death.

Throughout her career, Roxie’s ingenuity was apparent in all her projects. In the early 1960s, she developed a technique for sexing Whooping Cranes for the Patuxent Wildlife Research Center—an important process for recovery and management efforts to save that endangered species. During her early years with USFWS, under the direction of John Aldrich, Roxie began her first feather identification services. She developed a technique to identify species of birds from feathers using light microscopy and scanning electron microscopy, in combination



ROXIE COLLIE LAYBOURNE, 1910–2003

(Photograph taken in 1991 in the wet collections at the Division of Birds, Smithsonian Institution)

with examining slight variations of feather plumage on museum specimens. The practical importance of her work on feather identification was highlighted in 1960 when she identified a flock of European Starlings as the cause of a fatal airplane crash at Boston's Logan International Airport. That case became the cornerstone of Roxie's work on birdstrike issues, which eventually led to the development of the first laboratory in the world dedicated solely to feather identification. What had begun as a temporary appointment to assist in taxidermy and preparation of museum specimens turned into one of the longest and most charismatic careers at the Smithsonian's Museum of Natural History.

The three of us (C.J.D., M.H., and B.A.) worked closely with Roxie. Of all the individuals who wrote articles and prepared media reports describing Roxie's work, aviation reporter Bill Adair was the first to gain Roxie's trust on personal matters. In an article entitled "Roxius Amazingus" published in *The St. Petersburg Times* ([www.sptimes.com/News/112199/Floridian/Roxius\\_Amazingus.shtml](http://www.sptimes.com/News/112199/Floridian/Roxius_Amazingus.shtml)), she revealed to Bill her "Rules for Success" and disclosed personal facts (like her age) that were never before shared, even with her closest friends. Over the course of many interviews and visits, Bill learned interesting facts about Roxie that describe her unique character. For example, when Roxie attended Meredith College—a women's school—the independence and individuality she showed as a child continued unabated. She trapped rabbits and cooked them in the dorm. She was the first student at Meredith to wear blue jeans, and she once got in trouble for skipping classes to see Amelia Earhart arrive at a local airfield. It was at Meredith that Roxie got the chance to act in plays and explore her love of drama (a skill that she later said came in handy when testifying in court).

Roxie's career had its roadblocks. Being a woman interested in natural history and aviation during the depression years did not serve to open doors of opportunity. She was denied entrance into aviation-ground school because of gender. Instead, she took correspondence courses and got a job working with propeller planes during her time in college to learn about aircraft and flight. The transition to working at the Smithsonian Institution also held some challenges during the 1940s. At that time, women

were thought of as secretaries or docents—not as scientists. Roxie ignored those opinions and later noted that "the best way to get around discrimination is to do the best job you possibly can and keep your mouth shut—persistence overcomes obstacles." As colleagues, we remember Roxie's deep respect and appreciation for everyone from custodians to curators; no matter their sex, race, or economic background, Roxie treated them the same.

With her boisterous laughter and unique North Carolinian accent echoing through the Bird Division, Roxie's positive and encouraging attitude was shared with anyone who stopped by her worktable. She took a special interest in young people. From organizing birding trips for boy scouts to her evening bird-skinning classes at the museum, Roxie viewed her efforts to teach "her" students with happiness and pride. Hundreds of bird specimens were added to the Smithsonian's research collections as a result of Roxie's bird-skinning classes, and some of her "skinning" students have gone on to successful careers in ornithology. In her personal files were many letters of thanks from those students, law enforcement agents, military officials, and aviation safety personnel.

Although Roxie guided numerous followers in birding activities and specimen preparation, only a few graduate students studied feather structure with her (Beth Ann Sabo, Carla Dove, and Marcy Heacker)—mainly because she thought that few people had the patience to undertake feather study. As an advisor, she was protective, boastful of her students, and at times demanding. She spent every possible moment with her students studying feathers. She expected complete dedication to work and studies, and told us that the only recreation allowed during graduate school was studying. She remained involved in graduate work on feather structure by serving as adjunct professor at George Mason University, Fairfax, Virginia.

Meredith College recognized Roxie in 1980 with an Alumna of the Year Award and in 1999 included her in a mural honoring the top 100 Meredith graduates. In 1984, George Washington University presented Roxie with an Alumni Achievement Award in recognition of her efforts to improve aviation safety. The U.S. Air Force saluted Roxie in 1996 with a Lifetime Achievement Award from the Bird Strike Committee USA/Canada.

Roxie joined the AOU in 1961 and became an Elective Member in 1968 and a Fellow in 1995. She felt strongly about attending ornithological meetings, often traveling at her own expense, and only stopped participating in 1995 after an injuring fall at the Bird Strike Committee Meeting in Dallas, Texas.

Roxie Laybourne is survived by two sons: Clarence Grimmer Simpson, from her first marriage to Phil Simpson, and Robert Collie

Laybourne, from her second marriage to Edgar G. Laybourne, a noted Smithsonian taxidermist. Roxie will be greatly missed by those whose lives she touched. Her legacy in ornithology, natural history and aviation safety will long persist. We are privileged to have known Roxie as a mentor, professional colleague, and friend.

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