OBITUARIES

Copeia 2010, No. 2, 341–345

Royal Dallas Suttkus (1920–2009)

Henry L. Bart, Jr.[1]

ROYAL DALLAS SUTTKUS, or ''Sut,'' as he is affectionately known to family and friends, was born 11 May 1920 in Ballville, Ohio, the third of four children of John Albright Suttkus and Myna Louise Schultz Suttkus. His father made a living as a trapper, fisherman, carpenter, boat builder, and welder; his mother was a homemaker. Sut's oldest and only surviving sibling, Hazen Orville Suttkus (born 1917), piloted bombers during WWII, and worked as an aeronautical engineer after the war. Brother Merlin Gordon Suttkus (1919–1986) made a career in the U.S. Air Force. His youngest and only sister, Lotus Arbutus Suttkus (1923–1978) was in the Women's Auxiliary Corps and later did clerical work for a battery manufacturer.

Royal, as he was called as a boy, developed a love for natural history in early childhood. He hunted rabbits and pheasant with brother Merlin, and enjoyed birding, gathering wildflowers, and collecting insects. He taught his friends about horned worms and hawk moths. He fished with his father below the hydrodam on the Sandusky River, catching white and black crappie, which locals called ''saigo'' and strawberry bass. He caught small fish with his hands while searching for crayfish among slabs of rock. He recalls seeing redhorse suckers spawning along the Sandusky River and shooting an Egyptian goose with a bow and arrow along the Grand River in Michigan. He read Darwin's *On the Origin of Species* while in high school.

Suttkus graduated from Fremont Ross High School in 1937 then worked in a celery garden for two years at a salary of $0.25 cents per hour to earn money for college. In the fall of 1939, he enrolled in Michigan State University, eventually majoring in Wildlife Management. He spent his summers doing conservation work. In the summer of 1940, he worked for the U.S. Bureau of Entomology & Plant Quarantine on the Japanese Beetle infestation, back home in Fremont. In the summer of 1941, he worked for Coeur d'Alene National Forest in Idaho as a member of the ''Under Forest Guard.'' In summer 1942, he worked with a trail and telephone line repair crew in Yosemite National Park in California.

With the start of WWII, a number of Suttkus's professors were called off to service. This meant that he could not take the required courses to earn a degree in his major. He changed his major to Zoology and took Fisheries with Peter I. Tack, a former student of Edward C. Raney. It was then that he was first introduced to the study of fishes.

Suttkus joined the R.O.T.C. at Michigan State where he trained in field artillery. He excelled in physical training, even helping to build the obstacle course used to train recruits. In his senior year (fall 1942), he went to the Army Induction Center in Battle Creek Michigan and was inducted into the Army Reserve. He continued to take classes, eventually taking the Graduate Record Exam, which at the time covered many subjects, took three days to complete, and was designed to certify a Bachelor's degree in case a student was called off to war.

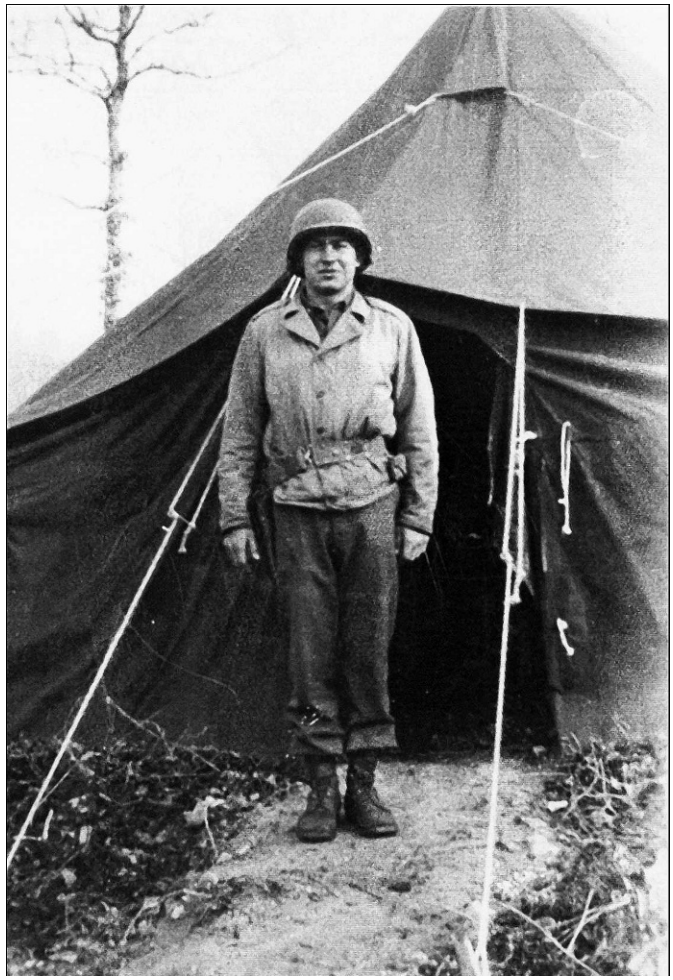

Fig. 1. Lieutenant Royal Suttkus, U.S. Army 686th Field Artillery Battalion, at Table Rock Camp, Fort Hood, Texas, August, 1944.

Suttkus shipped off to Camp McCoy, Wisconsin in the spring of 1943 (Fig. 1). Soon after, he transferred to Fort Sill, Oklahoma and enrolled in Officer's Commission School. He trained as a Forward Observer and learned mine and booby trap detection and removal. When he finished his training, he was promoted to Second Lieutenant and attached to the 686th Field Artillery, an all African American battalion. His battalion went to South Wales in 1944 then crossed the

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 DOI: 10.1643/OT-10-001

English Channel to France. His training was put to immediate use in the Battle of the Bulge. On one harrowing observation mission, while scouting the position of German artillery, Suttkus became trapped in a bomb crater with German soldiers visible in the distance. He spent the next three days pinned in the crater, occasionally taking fire, while still trying to sight the German guns.

Suttkus was discharged from the Army in June 1946 at the rank of Captain. He applied to graduate programs at Cornell University, the University of Michigan and University of California, Los Angeles, expressing an interest in studying ornithology. He received word that he was admitted to UCLA and Michigan, but no word from Cornell. He decided to hitchhike to Ithaca to determine his admission status. He learned that his records had not been circulated. So, Suttkus himself took his file around to various members of the Zoology faculty. He soon learned that he was not welcomed by the Cornell ornithologists. Ichthyologist Ed Raney, on the other hand, was very receptive. Suttkus knew the instant he walked into Raney's office that he wanted to study under him. Raney also was a war veteran and appreciated Suttkus's background in wildlife management. Raney explained to Suttkus that there were no more graduate student slots in Arts and Sciences, but Raney would make room for him in the School of Agriculture. He told Suttkus to go home and pack his bags.

When Suttkus returned to Cornell to start his graduate training, Raney introduced him to mammalogist, William J. Hamilton (*Mammals of Eastern North America*). Suttkus's first teaching assistantship was Vertebrate Zoology with Raney and Hamilton. Among the professors who instructed Suttkus at Cornell were anatomist/ichthyologist Perry W. Gilbert and herpetologist Albert Hazen Wright. Among his fellow graduate students were Denton W. Crocker (*Crayfishes of New England*), anatomist Howard E. Evans, geneticist James Kezer, ichthyologists Robert H. Gibbs, C. Richard Robins, Robert Ross, Robert Roeker, and Ralph W. Yerger.

In the Summer of 1947, Suttkus took a job with New York Fish and Game managing the fishery in Saranac Lake (Fig. 2). It was there that he met his bride-to-be, Jeanne Elizabeth Robinson (born 15 January 1928), whose family lived close to the lake. They were married 23 December 1947. Son Jayson, the first of three children, was born in Ithaca two years later on 31 January 1949.

Suttkus attended his first ASIH meeting in New Orleans in 1948, presenting a paper at the meeting, co-authored by Ed Raney, on *Hadropterus* (*Percina*) *peltata*. Suttkus recalls being very nervous about giving the talk before so many distinguished ichthyologists. But Raney insisted that he do it to get exposure. Suttkus developed his passion for collecting while working with Raney at Cornell. Raney took Suttkus and his other students on long collecting trips, sampling streams along the eastern seaboard and Gulf coast and preserving large numbers of specimens. It was on one of these trips in August 1948, that Suttkus, traveling with Ed Raney and Leonard J. Kezer through seven southern states, encountered species in the *Pteronotropis* species group, which became the subject of his dissertation. Suttkus made a total of 698 fish collections while at Cornell, contributing 5,893 lots and 84,078 specimens of fishes to the Cornell Ichthyology Collection.

Suttkus accepted a faculty position in Zoology at Tulane University in Fall 1950, nine months before earning his doctoral degree from Cornell (May 1951), and joined a vibrant department that included herpetologist Fred R. Cagle and invertebrate zoologist George H. Penn. He taught a variety of courses at Tulane, including Ichthyology, Comparative Anatomy, Vertebrate Natural History, Vertebrate Paleontology, Biology of Mammals, and a course in Micro Techniques for nurses in Tulane's University College. Daughter Ramona Suttkus was born in New Orleans on 19 April 1951; daughter Jan Suttkus was born 21 September 1954 (Fig. 3).

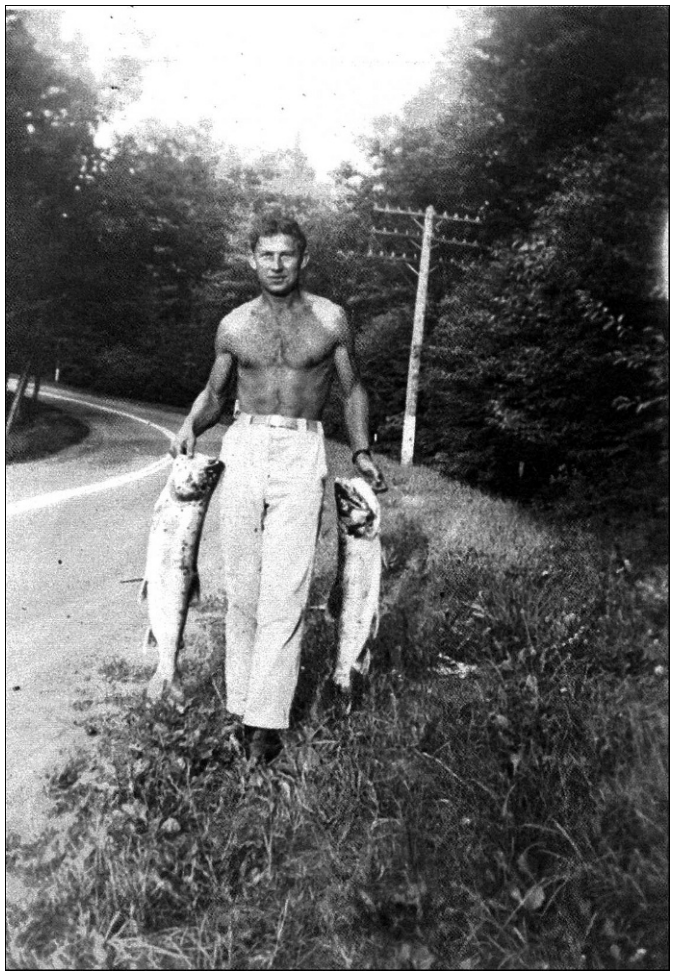

Fig. 2. Suttkus, then a doctoral student at Cornell, holding lake trout taken from Saranac Lake, New York, while working for New York Game and Fish in summer 1947.

Fig. 3. The Suttkus Family in New Orleans, 1956. From left, son Jayson, Suttkus, daughters Ramona and Jan, and wife, Jeanne.

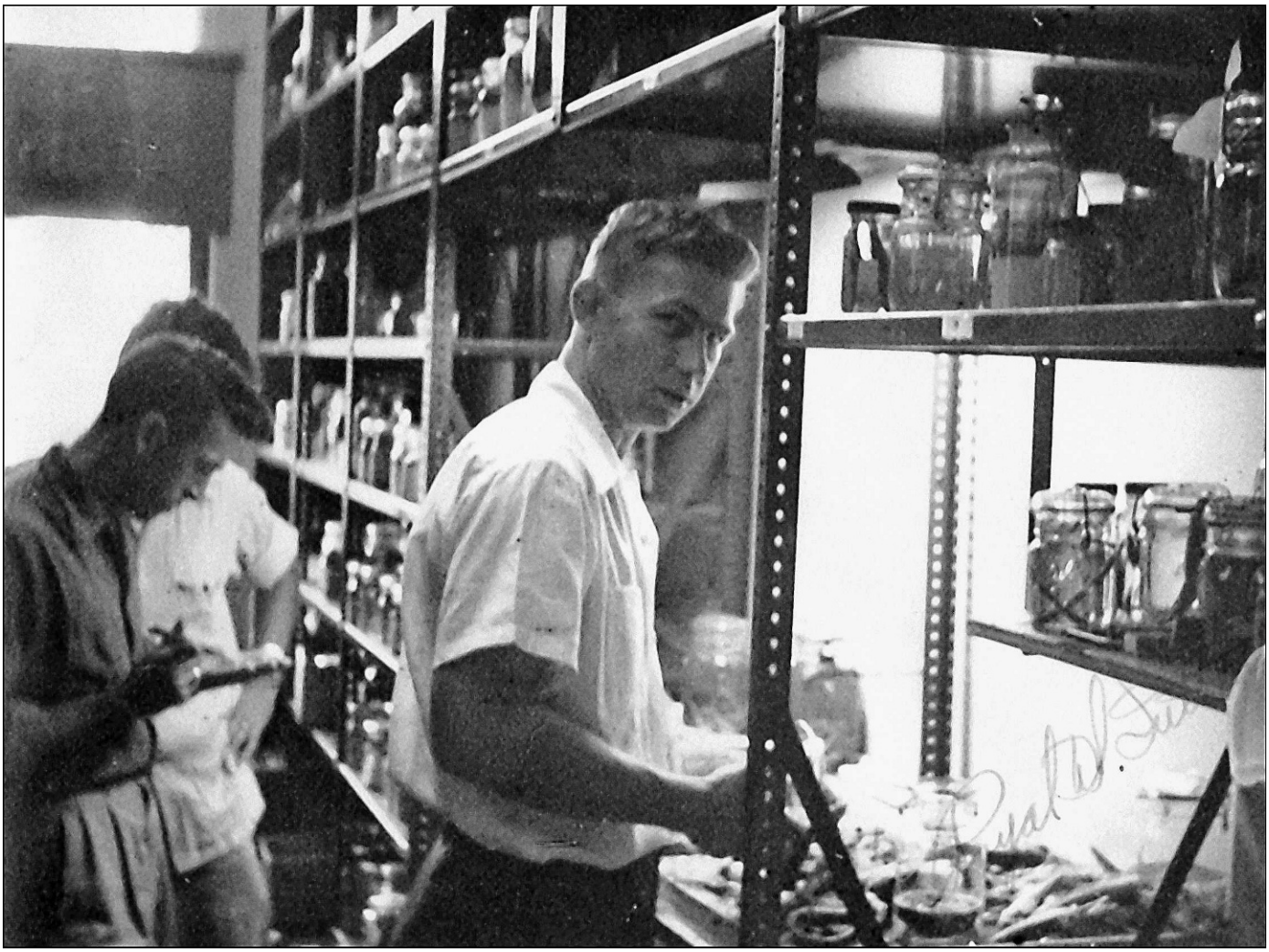

Fig. 4. Suttkus working in the fish collection in 1958 on Tulane's uptown campus, before the collection outgrew its space and was relocated to the F. Edward Hebert Research Center in Belle Chasse, LA.

Suttkus devoted his career to collection building and studies of the taxonomy and natural history of specimens he collected (Fig. 4). From 1963 to 1968, he was Principal Investigator of the NIH-funded, Environmental Biology Training Program, a summer program in which students received lectures and training while in the field collecting and preparing specimens of plants, invertebrates, fishes, herps, birds, mammals, and fossils. In 1963, Suttkus started a consulting business with his long-time Tulane colleague, the late Gerald E. Gunning. Their first contract was a survey of ten stations on the Pearl River near Bogalusa, Louisiana for a pulp and paper mill (Fig. 5). The survey started with monthly samples in April 1963, then switched to quarterly (seasonal) collections a year later. A quarterly survey of eight stations on the upper Pearl River was initiated in 1973. Suttkus continued both surveys until 2005. A survey of the lower Alabama River started in 1969 and continued until 2000. A survey of the Red River near Alexandria, LA was established in 1976 and ended in 2002. Shorter–term surveys were conducted in the Perdido Bay System (17 stations, 9 years), Sabine River (22 stations, 4 years), Mississippi River (15 stations, 2 years), and Calcasieu River (6 stations, 2 years).

All of the collecting on these surveys was supervised by Suttkus and involved standardized sampling gear and technique. Sampling time was always recorded along with temperature and details of habitat conditions. Data on a number of water quality parameters were typically gathered along with the fishes. All of the specimens collected (fishes and any amphibians, reptiles, mussels, and decapods that happened to be collected) were preserved and ultimately cataloged into the museum. Most of the survey rivers have experienced major disturbances during the times the surveys were being conducted, including channelization, impoundments, and dredging activity. Changes in riverine fish faunas resulting from these alterations are documented in the Tulane Fish Collection.

Suttkus credits Ed Raney most with influencing his development as an ichthyologist. Raney suggested Suttkus's dissertation topic on subgenus *Pteronotropis*. He helped Suttkus with early species descriptions and invited Suttkus to shared projects with him (e.g., the *Bembrops* revision Suttkus completed with Bruce Thompson). Raney negotiated on Suttkus's behalf in disputes with more senior fish taxonomists and advised him on a variety of professional matters. It was Raney who recommended that Suttkus take over for him as Acting Editor in Chief for *Copeia* in 1959. It was also Raney who suggested that Suttkus establish the consulting business to supplement his university salary. In Suttkus's view, Raney put helping young ichthyologists above his own professional accomplishments.

Fig. 5. Suttkus piloting a johnboat on the Pearl River in the late 1960s, one of the environmental consulting surveys he conducted on large rivers of the Gulf South with long time colleague, the late Gerald R. Gunning.

Another person whom Suttkus credits with helping his professional development within the ichthyological community was Ernest A. Lachner. Lachner allowed Suttkus to stay at his house while Suttkus was studying fishes in the U.S. National Museum, and spent countless hours conversing with Suttkus about fish systematics, biogeography, and taxonomy.

The person who most influenced Suttkus at Tulane was paleontologist Harold E. Vokes. Vokes always made time for Suttkus, who spent long hours talking with him. Although Vokes specialized in invertebrate fossils, Suttkus considered his general knowledge of zoology as good, or better, than most neontologists. In addition to being a world-renowned authority on invertebrate paleontology, Vokes was an expert on zoological nomenclature, having served as a member of the Commission of Zoological Nomenclature. Suttkus often sought Vokes' advice on fish names. In one instance, Suttkus planned to name a new species of *Notropis*, *N. raneyi*, after his advisor Ed Raney. Reeve Bailey cautioned that genus *Notropis* might be synonymized in the genus *Nocomis*, in which case *Nocomis raneyi* would take priority over Suttkus's name. It was Vokes who suggested that Suttkus name his species *Notropis edwardraneyi*.

Suttkus accompanied Vokes and his wife Emily on a number of oceanic cruises. The first was a cruise of the Indian Ocean on the research vessel *Anton Bruun* in 1964, during which Vokes and Raney persuaded the Tulane administration and Chief Scientist Ed Chin of Woods Hole to allow Suttkus to participate.

Fig. 6. A photo of Suttkus from fall 2000 in the fish collection that was named in his honor.

In 1965, Vokes served as Chief Scientist on a cruise in the Caribbean and invited Suttkus to join this cruise as well. On one of the days of the cruise, Suttkus took Vokes and Emily out in a zodiac to sample around an island reef. They put out rotenone before a tide change, then collected specimens until late in the evening once the tide went out. When they tried to return to the ship, they discovered that it was nowhere in sight. The ship had moved to deeper water. As they searched for the ship, it became so completely dark that all they had to navigate by was the light of the stars. Complicating matters further, the water became choppy, making it hard to see lights on the horizon due to the swells. Suttkus motored the zodiac back and forth for what seemed like an eternity, searching for the ship. He feared that they were lost at sea. Thankfully, Suttkus was able to call on his experience teaching students about the night skies during collecting trips in the southwest. He used the stars to set a course to the south, where he guessed the ship would be and stayed on this course until he finally saw the ship's lights. When they finally reached the ship, they had a hard time boarding because of the now large sea swells. It turned out that a hurricane was threatening, Hurricane Betsy, which later hit New Orleans.

Suttkus joined a number of other cruises on the *Anton Bruun*, sampling off the coasts of Peru and Venezuela, and around the Galapagos Islands. Suttkus extolled the benefits of these NSF-funded oceanic cruises for giving him international experience for courses he would later teach on zoogeography and marine biology.

Suttkus has published an impressive body of scholarly work during his career. His most recent cv lists 122 in-print papers, 53 of which deal directly with fish taxonomy and systematics, 39 report on various aspects of fish life history and/or distribution, and 27 are reports of fish monitoring surveys. As a sign of his taxonomic breadth, 11 of his papers deal with mammals, three deal with crayfishes, and one deals with freshwater mussels. Among his systematic/taxonomic contributions are descriptions of 35 new fish species, 29 of which are freshwater species largely confined to the southeastern United States. It is in the southeastern U.S. that his contributions to knowledge of biology have been greatest. It is hard to collect anywhere in the southeast without encountering at least one of his species. Moreover, Suttkus's taxonomic treatments are among the most thorough in the profession in terms of numbers of specimens examined. As such, they will surely withstand the test of future taxonomic scrutiny.

In my review of Steve Ross's fine book, *Inland Fishes of Mississippi* (Bart, 2003), I noted that Suttkus's authority in named fishes in Mississippi ranks fifth behind such greats as Constantine S. Rafinseque, David Starr Jordan, Charles Girard, and Charles A. LeSueur, and ahead of important figures such as Oliver P. Hay, Edward D. Cope, Louis Agassiz, Charles H. Gilbert, Bernard Lacepede, and Barton W. Evermann. He described all three of Mississippi's endemic fishes. He no doubt ranks highly on named fishes lists in Alabama and Louisiana as well.

Suttkus is perhaps best known for his prowess collecting in the field. I consider the Tulane Museum of Natural History Fish Collection his greatest contribution to ichthyology. Suttkus built the collection on a foundation of just two mounted fish specimens left over from an early exhibit museum (Caruso and Cashner, 1990). By 1968, the fish collection had grown to a size of just over two million specimens, overfilling its space on the main Tulane campus. Later that year, the fish collection, along with birds, mammals, and vertebrate fossil collections left over from the early exhibit museum, plus the thousands of specimens of plants, herps, mammals, and fossils amassed by Suttkus and students in the Environmental Biology Training Program, were moved to a parcel of land on the Mississippi River near Belle Chasse, LA, which served as an ammunition storage depot during WWII. Tulane acquired the property from the U.S. Navy in 1964. The land and ammunition storage bunkers eventually became the F. Edward Hebert ''Riverside'' Research Laboratories. The collections became part of what was then called the Systematics and Environmental Biology Laboratory. In 1976, Suttkus convinced the Tulane administration to formally recognize the collections at Riverside as the Tulane University Museum of Natural History, and to appoint him as the Museum's first Director.

In the years since the move to Riverside, the fish collection has grown to 200,209 lots and over seven million specimens (7,369,607 at this writing). Over a career spanning 45 years at Tulane, Suttkus made 12,060 collections. Remarkably, he had a hand in collecting 5,327,512 of the specimens in the fish collection. In addition to fishes, Suttkus collected over 5,000 mammals, 6,000 amphibians and reptiles, roughly 6,000 vascular plants (now in the Tulane Herbarium), and numerous aquatic mollusks, crustaceans, and fossils. Other biologists are now making valuable use of all of these specimens. One measure of this is the number of species that have been named in Suttkus's honor (six fishes, two decapods, and one fossil oyster). Based on past and ongoing use of material from the Tulane fish collection, it is clear that Suttkus's collections will teach us much about taxonomy, distribution, and many other aspects of the biology of species he collected for many years to come.

Suttkus directed 24 graduate students during his career (10 M.S., 14 Ph.D.), including important contributors to ichthyology such as Rudolph J. Miller (M.S. 1958), John S. Ramsey (Ph.D. 1965), James E. Thomerson (Ph.D. 1965), Clyde D. Barbour (Ph.D. 1966), Michael D. Dahlberg (Ph.D. 1966), Kenneth Relyea (Ph.D. 1967), Roy J. Irwin (Ph.D. 1970), Glenn H. Clemmer (Ph.D. 1971), Anthony Laska (M.S. 1970, Ph.D. 1973), Robert C. Cashner (Ph.D. 1974), the late Salvador Contreras-Balderas (M.S., 1966, Ph.D. 1975), John H. Caruso (Ph.D. 1977), J. Van Connor (Ph.D. 1977), and the late Bruce A. Thompson (Ph.D. 1977).

In 1989, in anticipation of Suttkus's retirement, the Tulane Administration brought in a team of external reviewers to evaluate collections in the Museum and to make recommendations on their continued maintenance by Tulane. In their report to the administration, the reviewers described the fish collection as ''a treasure of great national and international importance'' and strongly recommended maintenance of the fish collection at Tulane.

Suttkus officially retired from Tulane University in 1990. However, he continued to credit the university and the museum of natural history on papers published since this time. In fall 2000, a jubilee celebration was held in New Orleans to honor Suttkus's 50 years of service to Tulane University and his contributions to southeastern biology (http://www.museum.tulane.edu/sutjubilee/). The event was attended by most of his family, former students, and his closest professional colleagues and associates. A symposium was held in his honor, featuring talks on Suttkus's contributions to mammalogy, botany, malacology, invertebrate paleontology, training in all of biology, and, of course, ichthyology. Dave Etnier gave a talk entitled ''Collecting caddisflies: how much is enough?'' in which he introduced the term ''Suttkusian'' to describe the large collecting efforts that are needed to collect enough male caddisflies for species descriptions. Franklin ''Buck'' Snelson wrote a song entitled ''Collecting Machine'', which was played with a special slide show at the Jubilee. The song and slide show can be viewed at http://www.museum.tulane.edu/sutjubilee/suttsong.html. At a special closing ceremony, a proclamation from the President, Faculty, and Administrators of Tulane University was read by the Dean of Arts and Sciences, renaming the Tulane Fish Collection, the Royal D. Suttkus Fish Collection, and granting Suttkus the title of Emeritus Curator of Fishes (Fig. 6).

Suttkus continued collecting and depositing specimens in the fish collection until just before Hurricane Katrina devastated the Gulf Coast in 2005. Suttkus's home near the beach in Ocean Springs, Mississippi, was flooded and badly damaged by the high winds and storm surge that accompanied the hurricane. He lost nearly all of his possessions, including his field notes and most of his library. What little remains is now part of the Royal D. Suttkus Fish Collection. Royal D. Suttkus died on 28 December 2009 in Atlanta.

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